GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF SCIENCE AND TECHNOLOGY
RAJYA SABHA
UNSTARRED QUESTION NO. 1562
ANSWERED ON 12/02/2026

ACHIEVEMENTS UNDER NQM

1562 SHRI SUJEET KUMAR:
SHRI RAJIB BHATTACHARJEE:
SHRI AMAR PAL MAURYA:
Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the progress achieved under the National Quantum Mission (NQM) during 2025;

(b) the status of startup support under NQM, including the outcomes achieved by the supported startups and their contribution to quantum communication, computing and sensing;

(c) the operational status and access framework of three national-level Central Fabrication Facilities established under NQM and their utilisation by academia, industry and strategic sectors; and

(d) the details of steps taken to build a quantum-ready workforce and quantum-safe ecosystem, including any new academic programmes?

ANSWER

MINISTER OF STATE (INDEPENDENT CHARGE) FOR THE
MINISTRY OF SCIENCE AND TECHNOLOGY & EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) to (b): Department of Science & Technology is implementing the National Quantum Mission. The progress achieved under the Mission in 2025 is given below:

i. Under the Mission, four Thematic Hubs (T-Hubs) have been established in the financial year 2024–25. These hubs focus on key areas: Quantum Computing at the Indian Institute of Science Bengaluru, Quantum Communication at the Indian Institute of Technology Madras in association with C-DoT, Quantum Sensing & Metrology at the Indian Institute of Technology Bombay, and Quantum Materials & Devices at the Indian Institute of Technology Delhi. These hubs have been incorporated as Section-8 Companies by their respective host institutions and have constituted their respective Hub Governing Boards (HGBs) for effective governance and administration. Funds have been released to all four T-Hubs to initiate their operations. The hubs are now fully functional and are engaged in a activities including Technology Development, Human Resource Development, Entrepreneurship Development & Industry Collaboration and International Collaborations.
ii. State-of-the-art fabrication and central facilities are being established at premier institutions for indigenous quantum hardware development.
iii. Defense Research and Development Organization (DRDO) and Indian Institute of Technology (IIT), Delhi has demonstrated quantum entanglement based free space secure communication over 1km distance at IIT Delhi campus.

iv. Under NQM, exclusive guidelines were formulated to onboard and support quantum startups through funding, access to national infrastructure and mentorship. Eight startups have been supported under the Mission, and a rolling Call for Startups is operational to induct early-stage ventures across all four quantum verticals. Notable outcomes achieved by startups are:

- QuNu Labs Pvt. Ltd. has developed and demonstrated a 500 km Quantum Key Distribution (QKD) network that detects eavesdropping and ensures secure encryption key distribution to protect confidential data.
- QpiAI created a 64-qubit scalable, fault-tolerant Quantum Processor Unit (QPU) to achieve quantum advantage in real-world applications.
- Prenishq, developed a high-precision diode laser with superior beam quality and stability for quantum communication and computing.
- PQuest Group under the IIT Bombay's Quantum Sensing & Metrology T-Hub launched India's first indigenous Quantum Diamond Microscope (QDM) for advanced magnetic field imaging.

These efforts contribute directly to India's capabilities in quantum communication, computing and sensing.

(c) Under NQM, state-of-the-art fabrication and central facilities are being established at IIT Bombay, IISc Bengaluru, IIT Kanpur and IIT Delhi to create world-class quantum device development capability in the country.

- Facilities for quantum computing hardware at IISc Bengaluru and IIT Bombay focus on superconducting, photonic and spin-qubit platforms.
- Quantum sensing and metrology facilities at IIT Bombay and IIT Kanpur support development of advanced sensor systems.
- The quantum materials and devices facility at IIT Delhi is aimed at indigenous fabrication of materials and components required for scaling quantum technologies.

These shared national facilities focus on providing access to researchers from academia, startups, industry and strategic sectors under defined governance and utilisation frameworks coordinated through the Mission and the respective host institutions.

(d) To build a quantum-ready workforce under the National Quantum Mission, UG Minor and M.Tech programmes in Quantum Technologies were launched in collaboration with All India Council for Technical Education (AICTE). A dedicated Call for Undergraduate Teaching Laboratories in Quantum Technologies has also been issued to promote hands-on learning among students. In parallel, to prepare for cybersecurity challenges posed by quantum computing, a Concept Paper on India's Quantum-Safe Ecosystem has been developed recommending national post-quantum cryptography standards, regulatory and compliance frameworks and promotion of indigenous R&D. Further, a dedicated Task Force comprising representatives from academia, industry, R&D laboratories, start-ups and government agencies has been constituted to guide migration to quantum-resistant cryptography and establish testing and certification mechanisms. DRDO has established a Quantum Test and Research Centre (QTRC) for setting up facilities for QKD lab, Post Quantum Cryptography and Quantum Random Number Generator mainly for security analysis, evaluation and integration testing.

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